EXHIBIT K



AVIAN RESOURCES EVALUATION

April 15, 2021

ARX Wireless 110 Washington Avenue North Haven, CT 06473

Re: Proposed CT0090 New Britain Facility

43 Osgood Avenue, New Britain, CT 06053

APT Project No. CT631130

ARX Wireless proposes to construct a new wireless telecommunications facility ("Facility") at 43 Osgood Avenue in New Britain, Connecticut (the "Site"). The Site consists of an approximately 2.62-acre parcel that is developed with a vacant one-story institutional building formerly used as an elementary school. The Facility would be located in the northeastern portion of the Site within a previously disturbed grassy area, and would include a 104-foot tall monopole tower with associated ground equipment within a 50-foot by 50-foot fenced compound. The Facility would be accessed from Beach Street via a proposed 12-foot wide access drive.

The purpose of this evaluation is to document the proposed Facility's proximity to avian resource areas and its compliance with recommended guidelines of the United States Fish and Wildlife Service ("USFWS") for minimizing potential impacts to bird species from telecommunications towers.

On behalf of ARX Wireless, All-Points Technology Corporation, P.C. ("APT") reviewed several publicly available sources of avian data for the state of Connecticut to provide the following information with respect to potential impacts on migratory birds associated with the proposed development. This desktop analysis and attached graphics identify avian resources and their proximities to the proposed Facility. Resources within approximately three (3) miles of the Site are graphically depicted on the attached Avian Resources Map. Some of the data referenced herein are not located in proximity to the Site and are therefore not visible on the referenced map due to its scale. In those cases, the distances separating the Site from the resources are identified in the discussions below.

Proximity to Important Bird Areas

The National Audubon Society has identified 27 Important Bird Areas ("IBAs") in the state of Connecticut. IBAs are sites that provide essential habitat for breeding, wintering, and/or migrating birds. To achieve this designation, an IBA must support species of conservation concern, restricted-range species, species vulnerable due to concentration in one general habitat type or biome, or species vulnerable due to their occurrence at high densities as a result of their congregatory behavior. The closest IBA to the Site is the Great Meadows approximately 7.18 miles to the east.

The Great Meadows IBA includes lush farmland and forested wetlands along an 8-mile stretch of the Connecticut River in Wethersfield, East Hartford, Glastonbury, and Rocky Hill. This floodplain contains rich farmland and a variety of habitat for wildlife. It is an oasis of green in the urban sprawl of Greater Hartford. Due to its distance from the Site, this IBA would not experience an adverse impact from development of the Facility.

Supporting Migratory Bird Data

The following analysis and attached graphics identify several additional avian resources and their proximities to the Site. Although these data sources may not represent habitat indicative of IBAs, they may indicate possible bird concentrations² or migratory pathways.

Critical Habitat

Connecticut Critical Habitats is a database developed by the Connecticut Department of Energy and Environmental Protection ("DEEP"), and available through the Connecticut Environmental Conditions Online (CT ECO)³ website that depicts the classification and distribution of 25 rare and specialized wildlife habitats in the state. The compilation represents ecological information collected over many years by state agencies, conservation organizations and individuals. These habitats range in size from less than one acre to tens of acres in extent. The Connecticut Critical Habitats information can serve to highlight ecologically significant areas and to target areas of species diversity for land conservation and protection, but may not necessarily be indicative of habitat for bird species. The nearest Critical Habitat to the proposed Facility is a terrestrial non-forested subacidic rocky summit outcrop area associated with Pinnacle Rock and located approximately 2.18 miles to the northwest. Due to the separating distance, this Critical Habitat would not experience an adverse impact from the proposed development of the Facility.

¹ http://web4.audubon.org/bird/iba/iba_intro.html

² The term "bird concentrations" is found in the USFWS *Revised Voluntary Guidelines for communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning* (September 27, 2013) analysis provided at the end of this document

³ CT ECO is a partnership between the Connecticut Department of Energy and Environmental Protection and the University of Connecticut.

Avian Survey Routes and Points

Breeding Bird Survey Route

The North American Breeding Bird Survey is a cooperative effort between various agencies and volunteer groups to monitor the status and trends of North American bird populations. Routes are randomly located to sample habitats that are representative of an entire region and do not necessarily represent concentrations of avifauna or identification of critical avian habitats. Each year during the height of the avian breeding season (June for most of the United States) participants skilled in avian identification collect bird population data along roadside survey routes. Each survey route is approximately 24.5 miles long and contains 50 stops located at 0.5-mile intervals. At each stop, a three-minute count is conducted. During each count, every bird seen or heard within a 0.25-mile radius is recorded. The resulting data is used by conservation managers, scientists, and the general public to estimate population trends and relative abundances and to assess bird conservation priorities.

The nearest survey route to the Site is the Southington Breeding Bird Survey Route (Route #18015) located approximately 3.9 miles to the southwest. This ± 25 -mile long bird survey route begins on East Street in Southington and generally winds its way north through Plainville, Farmington, Avon, and Canton before terminating in West Simsbury. Since bird survey routes represent randomly selected data collection areas, they do not necessarily represent a potential restriction to development projects.

Hawk Watch Site

The Hawk Migration Association of North America ("HMANA") is a membership-based organization committed to the conservation of raptors through the scientific study, enjoyment and appreciation of raptor migration. HMANA collects hawk count data from almost 200 affiliated raptor monitoring sites throughout the United States, Canada and Mexico, identified as "Hawk Watch Sites". In Connecticut, Hawk Watch Sites are typically situated on prominent hills and mountains that tend to concentrate migrating raptors. The nearest Hawk Watch Site, Taine Mountain, is located in Burlington, approximately 8.7 miles northwest of the proposed Facility.

Further, most hawks migrate during the day (diurnal) to take advantage of two theorized benefits: (1) diurnal migration allows for the use of updrafts or rising columns of air called thermals to gain lift without flapping, thereby reducing energy loss; and (2) day migrants can search for prey and forage as they migrate.

Based on the distance separating the proposed Facility from the Taine Mountain Hawk Watch Site and hawk migration behavior occurring during the daytime under favorable weather conditions when thermals form, no adverse impacts to migrating hawks are anticipated from development of the Facility.

Bald Eagle Survey Route

Bald Eagle Survey Routes consist of locations of midwinter Bald Eagle counts from 1986 to 2005 with an update provided in 2008. Initiated by the National Wildlife Federation, this database includes information on statewide, regional and national trends. Survey routes are included in the database only if they were surveyed consistently in at least four years and where at least four eagles were counted in a single year. The nearest Bald Eagle Survey Route is the Connecticut River Survey Route Number 1A that follows the Connecticut River from Route 66 in Cromwell to Route 291 in South Windsor; it is located approximately 8 miles east of the Site.

Bald eagle migration patterns are complex, dependent on age of the individual, climate (particularly during the winter) and availability of food.⁴ Adult birds typically migrate alone and generally as needed when food becomes unavailable, although concentrations of migrants can occur at communal feeding and roost sites. Migration typically occurs during the middle of day (10:30–17:00) as thermals provide opportunities to soar up with limited energy expense; Bald Eagle migration altitudes are estimated to average 1,500 to 3,050 meters by ground observers.⁵ Four adults tracked by fixed-wing aircraft in Montana averaged 98 km/d during spring migration and migrated at 200 to 600 meters above the ground (McClelland et al. 1996).⁶

The USFWS's *National Bald Eagle Management Guidelines* (May 2007) recommend a 660-foot buffer to bald eagle nests if the activity will be visible from the nest, with an additional management practice recommendation of retaining mature trees and old growth stands, particularly within 0.5 mile from water. No known bald eagle nests occur in the vicinity of the Facility.

Therefore, no adverse impacts to migrating bald eagles are anticipated with development of the Facility. This conclusion is based on the 104-foot height of the Facility, eagle migration patterns during the daytime under favorable weather conditions when thermals form, and compliance with USFWS bald eagle management guidelines.

Flyways

The Site is located in Hartford County, approximately 29 miles north of Long Island Sound. The Connecticut coast lies within the Atlantic Flyway, one of four generally recognized regional primary migratory bird flyways (Mississippi, Central and Pacific being the others). This regional flyway is used by migratory birds travelling to and from summering and wintering grounds. The Atlantic Flyway is particularly important for many species of migratory waterfowl and shorebirds, and Connecticut's coast serves as vital stopover habitat. Migratory land birds also stop along coastal habitats before making their way inland. Smaller inland migratory flyways (secondary flyways) are often concentrated along major riparian areas as birds use these valuable stopover habitats to rest and refuel as they make their way further inland to their preferred

⁴ Buehler, David A. 2000. Bald Eagle (*Haliaeetus leucocephalus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/506 [Accessed 09/09/13].

⁵ Harmata, A. R. 1984. Bald Eagles of the San Luis valley, Colorado: their winter ecology and spring migration. Ph.D. Thesis. Montana State Univ. Bozeman.

⁶ McClelland, B. R., P. T. McClelland, R. E. Yates, E. L. Caton, and M. E. McFadden. 1996. Fledging and migration of juvenile Bald Eagles from Glacier National Park, Montana. J. Raptor Res. 30:79-89.

breeding habitats. The Connecticut Migratory Bird Stopover Habitat Project (Stokowski, 2002)⁷ identified potential flyways along the Housatonic, Naugatuck, Thames, and Connecticut Rivers. This study paralleled a similar earlier study conducted by the Silvio O. Conte National Fish & Wildlife Refuge (Neotropical Migrant Bird Stopover Habitat Survey⁸), which consisted of collection of migratory bird data along the Connecticut River and the following major Connecticut River tributaries: Farmington, Hockanum, Scantic, Park, Mattabesset, Salmon, and Eight Mile Rivers. Of these potential flyways, the nearest to the proposed Facility is the Connecticut River, located approximately 8 miles to the east. The Farmington River riparian corridor, located 3.5 miles west of the proposed Facility, is not identified as a potential flyway but potentially forms a secondary flyway as birds move northward from the Connecticut River corridor during the spring migration. These major riparian corridors may provide secondary flyways as they likely offer more food and protection than more exposed upland sites, particularly during the spring migration.⁹

Siting of tower structures within flyways can be a concern, particularly for tall towers and even more particularly for tall towers with guy wires and lighting. The majority of studies on bird mortality due to towers focuses on very tall towers (greater than 1000 feet), illuminated with non-flashing lights, and guyed. These types of towers, particularly if sited in major migratory pathways, do result in significant bird mortality (Manville, 2005). The proposed Facility is not this type of tower, being an unlit, unguyed monopole structure only 104 feet in height. More recent studies of short communication towers (<300 feet) reveal that they rarely kill migratory birds. Studies of the mean flight altitude of migrating birds reveal flight altitudes of 410 meters (1350 feet), with flight altitudes on nights with bad weather between 200 and 300 meters above ground level (656 to 984 feet).

No adverse impacts to migrating bird species are anticipated from development of the Facility, based on its design (unlit and unguyed) and 104-foot height. The design and height of the proposed Facility, combined with distance from the Site, would also mitigate the potential for migratory bird impacts should the Farmington River be used as a secondary flyway.

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⁷ Stokowski, J.T. 2002. Migratory Bird Stopover Habitat Project Finishes First Year. Connecticut Wildlife, November/December 2002. P.4.

⁸ The Silvio O. Conte National Fish & Wildlife Refuge Neotropical Migrant Bird Stopover Habitat Survey http://www.science.smith.edu/stopoverbirds/index.html

⁹ The Silvio O. Conte National Fish & Wildlife Refuge Neotropical Migrant Bird Stopover Habitat Survey http://www.science.smith.edu/stopoverbirds/Chapter5_Conclusions&Recommendations.html

¹⁰ Manville, A.M. II. 2005. Bird strikes and electrocutions at power lines, communications towers, and wind turbines: state of the art and state of the science - next steps toward mitigation. Bird Conservation Implementation in the Americas: Proceedings 3rd International Partners in Flight Conference 2002. C.J. Ralph and T.D. Rich, editors. USDA Forest Service General Technical Report PSW-GTR-191. Pacific Southwest Research Station, Albany CA. pp. 1-51-1064.

¹¹ Kerlinger, P. 2000. Avian Mortality at Communication Towers: A Review of Recent Literature, Research, and Methodology. Prepared for U.S. Fish and Wildlife Service Office of Migratory Bird Management.

¹² Mabee, T.J., B.A. Cooper, J.H. Plissner, D.P. Young. 2006. Nocturnal bird migration over an Appalachian ridge at a proposed wind power project. Wildlife Society Bulletin 34:682-690.

Waterfowl Focus Areas

The Atlantic Coast Joint Venture ("ACJV") is an affiliation of federal, state, regional and local partners working together to address bird conservation planning along the Atlantic Flyway. The ACJV has identified waterfowl focus areas recognizing the most important habitats for waterfowl along the Atlantic Flyway. Connecticut contains several of these waterfowl focus areas. The nearest waterfowl focus area to the Site is the Connecticut River and Tidal Wetlands Complex area, which is located 9.3 miles to the southeast. Please refer to the attached Connecticut Waterfowl Focus Areas Map. Based on the distance of this waterfowl focus area to the Site, no impact to migratory waterfowl would result from development of the proposed Facility.

DEEP Migratory Waterfowl Data

The DEEP created a Geographic Information System ("GIS") data layer in 1999 identifying concentration areas of migratory waterfowl at specific locations in Connecticut. The intent of this data layer is to assist in the identification of migratory waterfowl resource areas in the event of an oil spill or other condition that might be a threat to waterfowl species. This data layer identifies conditions at a particular point in time and has not been updated since 1999.

The nearest migratory waterfowl area, located at the Wethersfield Meadows in Wethersfield, is approximately 7.4 miles to the east of the Site. The associated species are identified as black duck, Bufflehead, Mallard, common merganser, hooded merganser, green-winged teal, and wood duck. Based on the distance of this migratory waterfowl area to the Site, no impact to migratory waterfowl would result from development of the proposed Facility.

DEEP Natural Diversity Data Base

DEEP's Natural Diversity Data Base ("NDDB") program performs hundreds of environmental reviews each year to determine the impact of proposed development projects on state listed species and to help landowners conserve the state's biodiversity. State agencies are required to ensure that any activity authorized, funded or performed by a state agency does not threaten the continued existence of endangered or threatened species. Maps have been developed to serve as a pre-screening tool to help applicants determine if there is a potential impact to state listed species.

The NDDB maps represent approximate locations of endangered, threatened and special concern species and significant natural communities in Connecticut. The locations of species and natural communities depicted on the maps are based on data collected over the years by DEEP staff, scientists, conservation groups, and landowners. In some cases, an occurrence represents a location derived from literature, museum records and/or specimens. These data are compiled and maintained in the NDDB. The general locations of species and communities are symbolized as shaded areas on the maps. Exact locations have been masked to protect sensitive species from collection and disturbance and to protect landowners' rights whenever species occur on private property.

No known areas of state-listed species are currently depicted on the most recent Connecticut Department of Energy and Environmental Protection ("DEEP") Natural Diversity Data Base ("NDDB") maps in the location of the proposed Facility or within 0.25 mile to the Site. The nearest NDDB buffer area is ± 1.03 miles northwest of the Site. Since the Facility is not located within a NDDB buffer area, consultation with DEEP is not required in accordance with their review policy or the Connecticut Siting Council's NDDB review policy.

Based on these factors, the proposed Facility is not anticipated to adversely impact any federal or state threatened, endangered or species of special concern.

USFWS Communications Towers Compliance

In April 2018, the USFWS issued its *Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning*. These suggested best practices were instituted to assist tower developers in designing their structures in a way that minimizes the risk to migratory birds and threatened and endangered species. The following avoidance and minimization measures, when used comprehensively, are recommended by USFWS to reduce the risk of bird mortality at communication towers. APT offers the following responses to each of the USFWS recommendations, which are abridged from the original document.

- 1. Contact with USFWS Field Office. Communicate project plans to nearest USFWS Field Office.
 - On September 17, 2020, APT submitted an Information, Planning, and Conservation System ("IPaC") review and, based on the results, there are no federally listed threatened species known to occur in the vicinity of the Site.
- 2. Co-location. Co-locate communications equipment on existing communication towers or other structures (e.g., billboard, water and transmission tower, distribution pole, or building mounts). This recommendation is intended to reduce the number of towers across the landscape.
 - Collocation opportunities on existing towers or non-tower structures are not available in the area while achieving the required radio frequency ("RF") coverage objectives.
- 3. Placement. All new towers should be sited to minimize environmental impacts to the maximum extent practicable.
 - a. Place new towers within existing "antenna farms" (i.e., clusters of towers) when possible.
 - There are no existing "antenna farms" in the Site vicinity that would satisfy the RF coverage objectives.
 - b. Select already degraded areas for tower placement.

The Site is fully developed, with a vacant institutional building and previously disturbed grassy areas. Surrounding properties are residentially developed.

c. Towers should not be sited in or near wetlands, other known bird concentration areas (e.g., state or federal refuges, staging areas, rookeries, and Important Bird Areas), or in known migratory bird movement routes, daily movement flyways, areas of breeding concentration, in habitat of threatened or endangered species, key habitats for Birds of Conservation Concern or near the breeding areas ("leks") of prairie grouse.

The Facility is not within wetlands, a known bird concentration area, migratory or daily movement flyway, or habitat of avian threatened/endangered species.

d. Towers should avoid ridgelines, coastal areas, wetlands or other known bird concentration areas.

The Facility is not located near ridgelines, coastal areas, wetlands, or other known bird concentration areas.

e. Towers and associated facilities should be designed, sited, and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint". In addition, several shorter, un-guyed towers may be preferable to one, tall guyed, lit tower.

The proposed Facility will be sited, designed, and constructed to accommodate proposed equipment and to allow for future collocations within the smallest footprint possible, thus minimizing habitat fragmentation or the creation of barriers or excessive disturbance. The proposed Facility would consist of a 104-foot tall monopole structure which requires neither guy wires nor lighting and is therefore consistent with USFWS' environmentally preferred "gold standard".

- 4. Construction. During construction, the following considerations can reduce the risk of take of birds:
 - a. Schedule all vegetation removal and maintenance (e.g., general landscaping activities, trimming, grubbing) activities outside of the peak bird breeding season to reduce the risk of bird take.

No tree clearing is required for this project. All vegetation maintenance activities will occur outside of the peak bird breeding season to reduce the risk of bird take.

- b. When vegetation removal activities cannot avoid the bird breeding season, conduct nest clearance surveys:
 - i. Surveys should be conducted no more than five days prior to the scheduled activity to ensure recently constructed nests are identified;
 - ii. Timing and dimensions of the area to be surveyed vary and will depend on the nature of the project, location, and expected level of vegetation disturbance; and
 - iii. If active nests are identified within or in the vicinity of the project site, avoid the site until nestlings have fledged or the nest fails. If the activity must occur, establish a buffer zone around the nest and no activities will occur within that zone until nestlings have fledged. The dimension of the buffer zone will depend on the proposed activity, habitat type, and species present. The buffer should be a distance that does not elicit a flight response by the adult birds and can be 0.5 1 mile for hawks and eagles.

Not applicable. No tree clearing is required.

- c. Prevent the introduction of invasive plants during construction to minimize vegetation community degradation by:
 - i. Use only native and local (when possible) seed stock for all temporary and permanent vegetation establishment; and
 - ii. Use vehicle wash stations prior to entering sensitive habitat areas to prevent accidental introduction of non-native plants.

No landscaping or other vegetation plantings are proposed. No sensitive habitat areas exist at the Site.

- 5. Tower Design. Tower design should consider the following attributes:
 - a. Tower Height. It is recommended that new towers should be not more than 199 ft. above ground level (AGL). This height increases the mean free airspace between the top of the tower and average bird flight height, even in weather conditions with reduced cloud ceiling;
 - b. Guy Wires. We recommend using free standing towers such as lattice towers or monopole structures.
 - i. The minimum number of guy wires necessary should be used; and
 - ii. Guy wired towers that are proposed to be located in known raptor or waterbird concentrations areas, daily movement routes, major daytime migratory bird movement routes, staging areas, or stopover sites should have daytime visual markers or bird flight diverters installed on the guy wires to attempt to prevent daytime collisions.
 - c. Lighting System. Lights are a primary source of bird aggregation around towers, thus minimizing all light is recommended, including:
 - i. No tower lighting is the preferred option if Federal Aviation Administration (FAA) regulations and lighting standards (FAA 2015, Patterson 2012) permit.
 - ii. If taller (> 199 ft. AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used.
 - iii. For some towers, the FAA can permit an Aircraft Detection Lighting System (ADLS), which maintains a communication tower of any height to be unlit until the ADLS radars detect nearby aircraft, at which time the tower lighting system is triggered to illuminate until the aircraft is out of radar range.
 - iv. If taller (> 199 ft. AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. Unless otherwise required by the FAA, only white or red flashing lights should be used at night, and these should follow FAA obstruction and marking standards with regards to the minimum number of lights, minimum intensity (< 2,000 candela), and minimum number of flashes per minute (i.e., longest duration between flashes and "dark phase"). Avoid using non-flashing warning lights at night (FAA 2015, Patterson 2012). Owners of existing towers lit with lighting systems that include non-flashing lights should submit plans to the FAA explaining how and when they will transition to the new standards.
 - v. Security lighting for on-ground facilities, equipment, and infrastructure should be motion- or heatsensitive, down-shielded, and of a minimum intensity to reduce nighttime bird attraction and eliminate constant nighttime illumination while still allowing safe nighttime access to the site.

The proposed Facility would consist of a 104-foot tall monopole structure which requires neither guy wires nor lighting and is therefore consistent with USFWS' environmentally preferred "gold standard". Security lighting for on-ground facilities would be down-shielded using Dark Sky compliant fixtures set on motion sensor with timer to eliminate constant nighttime illumination.

Summary and Conclusions

Based on the results of this desktop evaluation, no migratory bird species are anticipated to be impacted by the proposed development. The Site is not proximate to an Important Bird Area and the proposed Facility would comply with the USFWS guidelines for minimizing the potential impacts to bird species.

Figures

- > Avian Resources Map
- ➤ Connecticut Waterfowl Focus Areas Map



